

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P564188

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564188
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-4STD-50-UNV-82-96-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12859.0 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

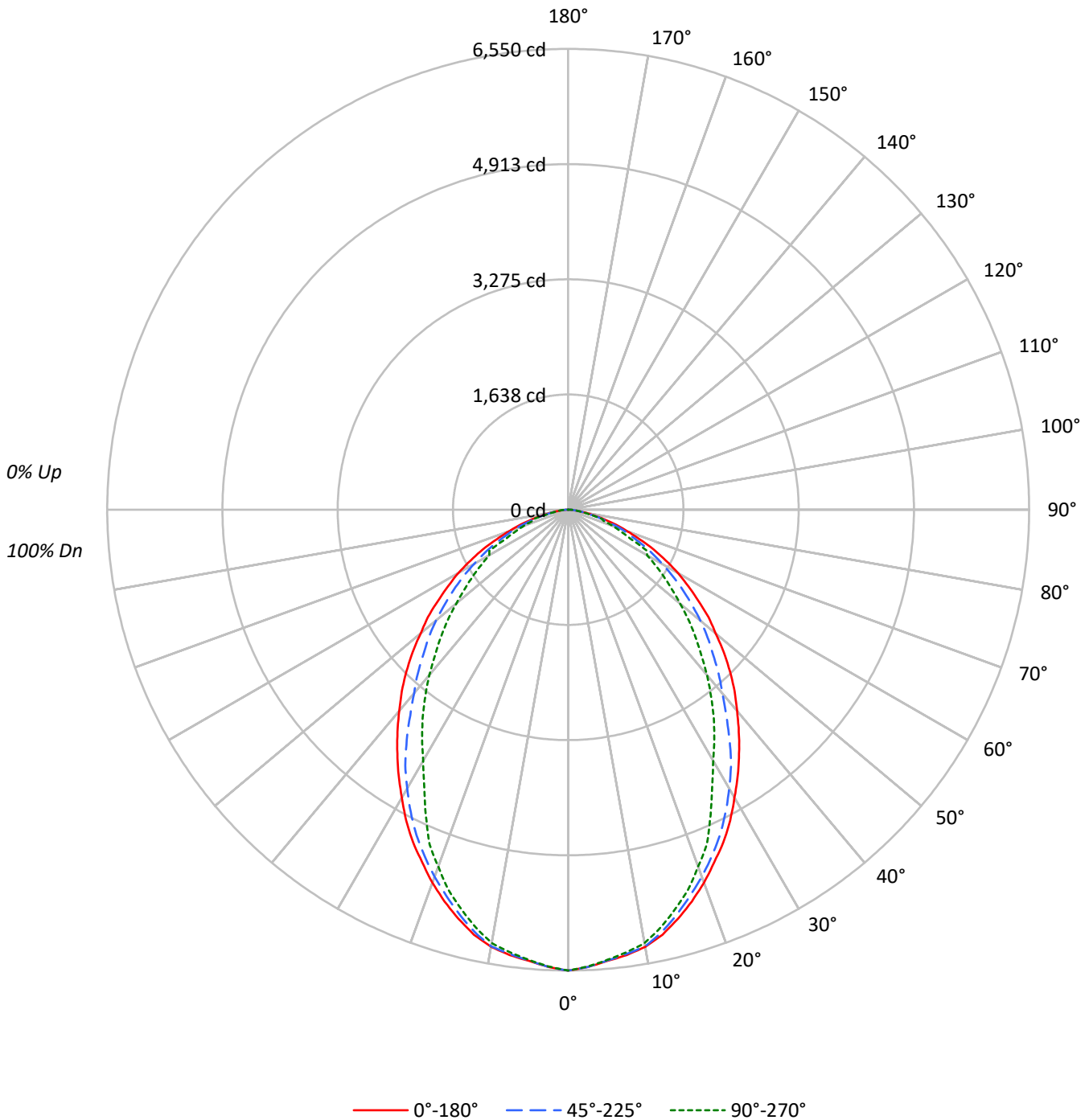
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8813	8813	8813
5°	8693	8683	8673
10°	8618	8608	8546
15°	8386	8301	8185
20°	8078	7948	7731
25°	7746	7577	7105
30°	7341	7106	6400
35°	6953	6567	5921
40°	6557	5985	5387
45°	6181	5533	4870
50°	5722	5136	4343
55°	5294	4654	3890
60°	4850	4157	3485
65°	4267	3640	3086
70°	3515	3188	2622
75°	2795	2441	2559
80°	1877	1760	1643
85°	1169	1403	1636

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6181 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	609.7	4.7
10°-20°	1673.4	13.0
20°-30°	2316.7	18.0
30°-40°	2470.2	19.2
40°-50°	2253.6	17.5
50°-60°	1765.5	13.7
60°-70°	1150.7	8.9
70°-80°	509.8	4.0
80°-90°	109.5	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	4599.8	35.8
0°-40°	7070.0	55.0
0°-60°	11089.1	86.2
0°-90°	12859.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12859.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6550	6550	6550	6550	6550	
5°	6437	6429	6429	6422	6422	611
15°	6020	6020	5960	5899	5876	1692
25°	5217	5187	5104	4922	4786	2395
35°	4233	4203	3998	3695	3604	2646
45°	3249	3180	2908	2666	2560	2502
55°	2257	2188	1984	1749	1658	2024
65°	1340	1265	1143	1166	969	1321
75°	538	500	470	447	492	576
85°	76	83	91	98	106	105
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6550.2	6550.2	6550.2	6550.2	6550.2
2.5°	6504.8	6504.8	6504.8	6497.2	6497.2
5°	6436.6	6429.0	6429.0	6421.5	6421.5
7.5°	6383.6	6376.0	6368.5	6360.9	6345.7
10°	6307.9	6307.9	6300.3	6262.4	6254.9
12.5°	6186.7	6179.2	6148.9	6095.9	6080.7
15°	6020.1	6020.1	5959.5	5899.0	5876.3
17.5°	5838.4	5830.8	5755.1	5694.5	5664.2
20°	5641.5	5626.4	5550.6	5452.2	5399.2
22.5°	5421.9	5421.9	5331.0	5202.3	5149.3
25°	5217.4	5187.2	5103.9	4922.1	4785.8
27.5°	4982.7	4937.3	4846.4	4588.9	4429.9
30°	4725.2	4702.5	4573.8	4240.6	4119.4
32.5°	4482.9	4445.1	4308.7	3960.4	3862.0
35°	4233.0	4202.7	3998.3	3695.4	3604.5
37.5°	3983.1	3945.3	3687.8	3445.5	3331.9
40°	3733.2	3687.8	3407.6	3188.0	3066.9
42.5°	3498.5	3437.9	3165.3	2930.6	2794.2
45°	3248.6	3180.4	2907.8	2665.5	2559.5
47.5°	2998.7	2938.1	2688.2	2438.3	2317.2
50°	2733.7	2680.7	2453.5	2203.6	2074.9
52.5°	2514.1	2430.8	2211.2	1961.3	1855.3
55°	2256.6	2188.4	1984.0	1749.2	1658.4
57.5°	2021.9	1953.7	1764.4	1544.8	1469.1
60°	1802.3	1703.8	1544.8	1355.5	1294.9
62.5°	1559.9	1484.2	1347.9	1188.9	1264.6
65°	1340.3	1264.6	1143.4	1166.2	969.3
67.5°	1098.0	1060.1	954.1	848.1	817.8
70°	893.6	848.1	810.3	696.7	666.4
72.5°	711.8	666.4	613.4	552.8	530.1
75°	537.6	499.8	469.5	446.8	492.2
77.5°	371.1	355.9	333.2	310.5	302.9
80°	242.3	234.7	227.2	219.6	212.0
82.5°	143.9	143.9	143.9	143.9	143.9
85°	75.7	83.3	90.9	98.4	106.0
87.5°	45.4	45.4	53.0	60.6	68.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)